

What is claimed is:

1. a semiconductor device comprising:
a semiconductor IC chip provided with a plenty of bond pads on a first surface thereof;
a wiring substrate provided with a through hole extending between a first surface and a second surface opposed to the first surface thereof;
conductive members connecting the bond pads of the semiconductor IC chip to a plenty of conductive lines formed on the first surface of the wiring substrate respectively; and
a sealing resin coating coating the first surface of the semiconductor IC chip and bonding a side surface of the semiconductor IC chip to a side surface of the through hole.
2. The semiconductor device according to claim 1, wherein the first surface of the semiconductor IC chip is substantially flush with the first surface of the wiring substrate.
3. The semiconductor device according to claim 1, wherein the conductive members are wires formed on a surface of a tape.
4. The semiconductor device according to claim 1, wherein the conductive members are formed of a conductive paste.
5. A semiconductor device comprising:
a semiconductor IC chip provided with a plenty of bond pads on a first surface thereof;
a wiring substrate provided with a through hole extending between a first surface and a second surface opposed to the first surface thereof;
conductive members connecting the bond pads of the semiconductor IC chip to a plenty of conductive lines formed on the first surface of the wiring substrate respectively; and
a sealing resin coating coating the first surface of the semiconductor IC chip and bonding a side surface of the semiconductor IC chip to a side surface of the through hole;
wherein semiconductor IC chip is disposed in the through hole of the wiring substrate so that the second surface of the semiconductor IC chip is spaced a predetermined distance apart from the second surface of the wiring substrate.
6. The semiconductor device according to claim 5, wherein the first surface of the semiconductor IC chip is substantially flush with the first surface of the wiring substrate.
7. The semiconductor device according to claim 5, wherein the predetermined distance between the respective second surfaces of the semiconductor IC chip and the wiring substrate is 50 μ m or above.
8. The semiconductor device according to claim 5, wherein the conductive members are wires formed on a surface of a tape.
9. The semiconductor device according to claim 5, wherein the conductive members are formed of a conductive paste.
10. A semiconductor device comprising:
a first semiconductor IC chip provided with a plenty of bond pads on a first surface thereof;
a wiring substrate provided with a through hole extending between first surface and second surface opposed to the first surface thereof;

first conductive members electrically connecting the bond pads of the first semiconductor IC chip to a plenty of conductive lines formed on the first surface of the wiring substrate respectively;

a second semiconductor IC chip formed in a shape substantially the same as that of the first semiconductor IC chip and provided with a plenty of bond pads on a first surface thereof;

second conductive members electrically connecting the bond pads of the second semiconductor IC chip to a plenty of conductive lines formed on the second surface of the wiring substrate, respectively; and

sealing resin coatings coating the respective first surfaces of the first and the second semiconductor IC chip and bonding side surfaces of the first and the second semiconductor IC chip to a side surface of the through hole.

11. The semiconductor device according to claim 10, wherein at least the first surface of the first semiconductor IC chip is substantially flush with the first surface of the wiring substrate or the first surface of the second semiconductor IC chip is substantially flush with the second surface of the wiring substrate.

12. The semiconductor device according to claim 10, wherein the first and the second conductive members are wires formed on tapes.

13. The semiconductor device according to claim 10, wherein the first and the second conductive members are formed of a conductive paste.

14. A semiconductor device fabricating method comprising :

attaching an adhesive tape to a first surface of a wiring substrate provided with a through hole extending between the first surface and a second surface opposed;

inserting a semiconductor IC chip provided with a plenty bond pads on the first surface of the semiconductor IC in the through hole so that the semiconductor IC chip is bonded to a part of the adhesive tape exposed in the through hole;

seating the wiring substrate on a stage having a projection so that the semiconductor IC chip is pushed up relative to the wiring substrate by a predetermined distance from the first surface of the wiring board by the projection of the stage;

electrically connecting the bond pads of the semiconductor IC chip to a plenty of conductive lines formed on a second surface of the wiring substrate by conductive members respectively;

coating the first surface of the semiconductor IC chip and the conductive members with a sealing resin coating and bonding a side surface of the semiconductor IC chip to a side surface of the through hole with the sealing resin coating; and

removing the adhesive tape from the first surface of the wiring substrate.

15. The semiconductor device fabricating method according to claim 14, wherein the step of electrically connecting the bond pads of the semiconductor IC chip to the conductive lines of the wiring substrate by the conductive members respectively comprises:

forming the conductive members by extruding a conductive paste through a nozzle onto the semiconductor IC chip and the wiring substrate.

16. The semiconductor device fabricating method according to claim 14, wherein the step of

electrically connecting the bond pads of the semiconductor IC chip to the conductive lines of the wiring substrate by the conductive members respectively comprises:

placing a mask having a pattern of open areas corresponding to a desired wiring pattern at a predetermined position on the first surface of the wiring substrate; and

spreading a conductive paste into the open areas of the mask.

17. The semiconductor device fabricating method according to claim 14, wherein the step of electrically connecting the bond pads of the semiconductor IC chip to the conductive lines of the wiring substrate by the conductive members respectively comprises:

forming the conductive members by transferring a pattern of a conductive paste corresponding to a pattern of the conductive members to the semiconductor IC chip and the wiring substrate.

18. A semiconductor device fabricating method comprising:

preparing a stage having a projection provided with an air passage opening into a major surface thereof and disposing a wiring substrate provided with a through hole extending between opposite surfaces thereof with the projection of the stage fitted in the through hole;

inserting a semiconductor IC chip provided with a plenty of bond pads on a first surface of the semiconductor IC in the through hole of the wiring substrate so as to be seated on the major surface of the projection of the stage;

exerting suction through the air passage to the semiconductor IC chip to hold fast the semiconductor IC chip on the major surface of the projection of the stage;

electrically connecting the bond pads of the semiconductor IC chip to a plenty of conductive lines formed on the first surface of the wiring substrate by conductive members respectively; and

coating the semiconductor IC chip and the conductive member with a sealing resin coating and bonding a side surface of the semiconductor IC chip to a side surface of the through hole with the sealing resin coating.

19. The semiconductor device fabricating method according to claim 18, wherein the step of electrically connecting the bond pads of the semiconductor IC chip to the conductive lines of the wiring substrate by the conductive members respectively comprises :

forming the conductive members by extruding a conductive paste through a nozzle onto the semiconductor IC chip and the wiring substrate.

20. The semiconductor device fabricating method according to claim 18, wherein the step of electrically connecting the bond pads of the semiconductor IC chip to the conductive lines of the wiring substrate by the conductive members respectively comprises:

placing a mask having a pattern of open areas corresponding to a desired wiring pattern at a predetermined position on the first surface of the wiring substrate; and

spreading a conductive paste into the open areas of the mask.

21. The semiconductor device fabricating method according to claim 18, wherein the step of connecting the bond pads of the semiconductor IC chip to the conductive lines of the wiring substrate by the conductive members respectively comprises ;

forming the conductive members by transferring a pattern of a conductive paste corresponding to a pattern of the conductive members to the semiconductor IC chip and the wiring substrate.